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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/904,981	07/12/2001	Feng Chen	CHRT-99203.DIV	3778

7590 04/12/2006

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EXAMINER

ROSE, ROBERT A

ART UNIT	PAPER NUMBER
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3723

DATE MAILED: 04/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/904,981	Applicant(s) CHEN ET AL.	
	Examiner Robert Rose	Art Unit 3723	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 34-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 34-39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

1. Claims 1-33 have been canceled.
2. Claims 34-39 are presented for examination.
3. Claims 34-39 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 34, lines 7-8 the phrases "the second front surface" and "the first front surface" are deemed ambiguous because two instances of a "second front surface" and a "first front surface" have been previously recited, for the pad and for the platen, respectively. In claims 35-37 the phrase "the peripheral region" is ambiguous, in that two instances of a "peripheral region" have been previously recited. Further, in claim 34, line 6 the underpad is recited is both recited as a separate element and as an element of the polishing pad. It is not clear whether it is intended that the underpad be defined as an element of the polishing pad.
4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 34-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Evans et al(US 5897424) in view of Yu(US 5435772), and further in view of Kim et al. Evans et al disclose a polishing apparatus comprising substantially all of the subject matter set forth in applicant's claims above, except for the recitation in claim 34 of a wafer carrier overlying the polishing pad. Note the embodiment of Figures 4-5 showing

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a backup platen having a tapered peripheral surface, which causes the upper surface of the polishing pad to be tapered. Note also U-shaped and V-shaped polishing surfaces of Figures 2A and 2B. Yu discloses a polishing apparatus having a polishing pad with a peripheral region characterized as tapered and horizontal, and having an overlying wafer carrier for applying the wafer to the polishing surface under a controlled pressure. Note figures 3-4 of Yu. To simply provide a wafer carrier in the apparatus of Evans et al overlying the polishing pad, in order to apply the wafer to the polishing pad at a controlled pressure for better control of the polishing process, would have been obvious in view of Yu. Multilayer pads are old and well known in the polishing art as evidenced by Kim et al. To make the pads in Evans et al of multilayer construction to control the amount of slurry absorption across the pad, and hence further control the wafer profile would have been obvious in view of Kim et al.

6. Applicant's arguments filed December 21, 2005 have been fully considered but they are not persuasive. Applicant has argued that neither Evans et al nor Yu et al disclose all of the features set forth in the claims as now amended. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Evans et al does disclose the pad structure as broadly recited in amended claim 34, and Yu teaches the expediency of providing a carrier for the work overlying the polishing pad. Such use of a wafer carrier to control the pressure of the work against the polishing

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surface is old and well known in the wafer polishing art, and to have employed such a wafer carrier in the apparatus of Evans et al would have been obvious in view of Yu.

With regard to Applicant's limitation of at least a portion of the second front surface of the peripheral region of the polishing pad overlying the tapered region of the polishing platen, is deemed to be shown in figures 4-5 of Evans et al. With regard to the new limitation in independent claim 34 of an underpad, such multilayer pads are old and well known in the polishing art as evidenced by Kim et al. To make the pads in Evans et al of multilayer construction to control the amount of slurry absorption across the pad, and hence further control the wafer profile would have been obvious in view of Kim et al.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert Rose whose telephone number is (571) 272-4494. The examiner can normally be reached on Monday through Thursday, and on alternate Fridays between 8:00 to 5:30.

8. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Hail, can be reached on (571) 272-4485. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

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you have questions on access to the Private PAIR system, contact the Electronic
Business Center (EBC) at 866-217-9197 (toll-free).

Robert Rose
Primary Examiner
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A handwritten signature in black ink, appearing to read 'Robert Rose', is written over the printed name and title.

Rr

March 3, 2006.